

In th Claims

Claims 1-11 (cancelled).

Claim 12 (original): A method for conditioning a surface of a polishing pad after chemical-mechanical polishing of a semiconductor substrate with the pad surface, comprising:

providing an apparatus which includes a steam outlet port proximate a conditioning stone;

positioning the pad with the pad surface against the conditioning stone and displacing the pad relative to the condition stone to rub the pad surface with the condition stone; and

flowing steam through the outlet port and across the pad surface as the pad surface is rubbed with the conditioning stone.

Claim 13 (original): The method of claim 12 wherein the steam is jetted onto the pad surface to impact the surface with a pressure of from about 10 psig to about 20 psig.

Claim 14 (original): The method of claim 12 wherein the steam has a temperature of at least about 200°F as it flows through the outlet port.

Claim 15 (original): The method of claim 12 wherein the steam has a temperature of at least about 200°F as it flows through the outlet port, and impacts the surface with a pressure of from about 10 psig to about 20 psig.

Claim 16 (original): The method of claim 12 wherein ammonium is within the steam during the exposure of the polishing surface to the steam.

Claim 17 (original): The method of claim 12 wherein ammonium citrate is within the steam during the exposure of the pad surface to the steam.

Claim 18 (original): The method of claim 12 wherein the chemical-mechanical polishing utilizes the pad to polish a copper-containing material; and wherein ammonium is within the steam during the exposure of the polishing surface to the steam.

Claim 19 (original): The method of claim 12 further comprising:
removing the pad surface from against the conditioning stone to complete the conditioning of the pad surface with the conditioning stone; and
after the conditioning of the pad surface with the conditioning stone is completed, exposing the pad surface to additional steam.

Claim 20 (original): A method for chemical-mechanical polishing of a semiconductor substrate with a polishing pad surface and reconditioning the pad surface, comprising:

providing a semiconductor substrate having a surface which is to be chemical-mechanical polished;

providing a polishing pad proximate the semiconductor substrate surface and utilizing a surface of the polishing pad to chemical-mechanical polish the semiconductor substrate surface;

providing an apparatus which includes a steam outlet port proximate a conditioning stone;

positioning the pad with the pad surface against the conditioning stone and displacing the pad relative to the condition stone to rub the pad surface with the condition stone; and

flowing steam through the outlet port and across the pad surface as the pad surface is rubbed with the conditioning stone.

Claim 21 (original): The method of claim 20 wherein the steam is jetted onto the pad surface from a plurality of nozzles generating overlapping spray patterns of the steam.

Claim 22 (original): The method of claim 20 wherein the steam is jetted onto the pad surface from a plurality of nozzles generating overlapping spray patterns of the steam; and wherein the nozzle spray patterns are fans in which the steam impacts the pad surface at angles from 0° to 45°.

Claim 23 (original): The method of claim 20 wherein the steam is jetted onto the pad surface from a plurality of nozzles.

Claim 24 (original): The method of claim 20 wherein the steam is jetted onto the pad surface to impact the surface with a pressure of from about 10 psig to about 20 psig.

Claim 25 (original): The method of claim 20 wherein ammonium is within the steam during the exposure of the polishing surface to the steam.

Claim 26 (original): The method of claim 20 wherein ammonium citrate is within the steam during the exposure of the pad surface to the steam.

Claim 27 (original): The method of claim 20 wherein the semiconductor substrate comprises a copper-containing material at the surface which is chemical-mechanical polished; and wherein ammonium is within the steam during the exposure of the polishing surface to the steam.

Claim 28 (original): The method of claim 20 further comprising:
removing the pad surface from against the conditioning stone to complete the conditioning of the pad surface with the conditioning stone; and
after the conditioning of the pad surface with the conditioning stone is completed, exposing the pad surface to additional steam.

Claims 29-35 (canceled).